

WHAT IS CLAIMED IS:

1. A method for adjusting a frequency characteristic of an edge reflection type surface acoustic wave device, comprising the steps of:

determining a frequency characteristic of an edge reflection type surface acoustic wave device having a piezoelectric substrate, the edge reflection type surface acoustic wave device having a pair of edges of the piezoelectric substrate which define a predetermined distance therebetween; and

cutting the piezoelectric substrate at at least one of a pair of positions which define a distance that is shorter than the predetermined distance when a final frequency characteristic of the edge reflection type surface acoustic wave device is to be higher than the obtained frequency characteristic, and cutting the piezoelectric substrate at at least one of a pair of positions which define a distance that is longer than the predetermined distance when a final frequency characteristic of the edge reflection type surface acoustic wave device is to be lower than the obtained frequency characteristic.

2. A method for adjusting a frequency characteristic of an edge reflection type surface acoustic wave device

according to claim 1, wherein the positions at which the piezoelectric substrate is cut in the piezoelectric substrate cutting step is shifted from positions of the edges which define the predetermined distance in the frequency characteristic obtaining step by about  $\lambda/8$  or less, where the  $\lambda$  is wavelength of a shear horizontal type surface wave to be excited in the edge reflection type surface acoustic wave device.

3. A method for adjusting a frequency characteristic of an edge reflection type surface acoustic wave device according to claim 1, wherein the positions at which the piezoelectric substrate is cut in the piezoelectric substrate cutting step is shifted from positions of the edges which define the predetermined distance in the frequency characteristic obtaining step by about  $\lambda/16$  or less, where the  $\lambda$  is wavelength of a shear horizontal type surface wave to be excited in the edge reflection type surface acoustic wave device.

4. A method for adjusting a frequency characteristic of an edge reflection type surface acoustic wave device according to claim 1, wherein the edge reflection type surface acoustic wave device comprises a single electrode type interdigital transducer.

5. A method for adjusting a frequency characteristic of an edge reflection type surface acoustic wave device according to claim 4, wherein the positions of the edges which define the predetermined distance are located at approximate centers of electrodes.

6. A method for adjusting a frequency characteristic of an edge reflection type surface acoustic wave device according to claim 1, wherein the edge reflection type surface acoustic wave device comprises a double electrode type interdigital transducer.

7. A method for adjusting a frequency characteristic of an edge reflection type surface acoustic wave device according to claim 6, wherein each of the positions of the edges which define the predetermined distance is located at an approximate center of a pair of electrode fingers constituting a double electrode.

8. A method for producing an edge reflection type surface acoustic wave device which includes at least one interdigital transducer and utilizes a shear horizontal type surface wave, comprising the steps of:

forming a plurality of interdigital transducers on a piezoelectric substrate;

cutting the piezoelectric substrate and producing a reference edge reflection type surface acoustic wave device including at least one of the interdigital transducers and a pair of edges of the piezoelectric substrate, the pair of edges defining a predetermined distance therebetween;

measuring a frequency characteristic of the reference edge reflection type surface acoustic wave;

determining positions of a pair of edges defining each of remaining edge reflection type surface acoustic wave devices based on the measured frequency characteristic; and

cutting the piezoelectric substrate at the determined positions to producing the remaining edge reflection type surface acoustic wave devices.

9. A method for producing an edge reflection type surface acoustic wave device according to claim 8, wherein in the position determining step, a distance between the pair of edges of the remaining edge reflection type surface acoustic wave devices is shorter than the predetermined distance when a final frequency characteristic of the remaining edge reflection type surface acoustic wave devices is to be higher than the measured frequency characteristic, and a distance between the pair of edges of the remaining

edge reflection type surface acoustic wave devices is longer than the predetermined distance when a final frequency characteristic of the remaining edge reflection type surface acoustic wave devices is to be lower than the measured frequency characteristic.

10. A method for producing an edge reflection type surface acoustic wave device according to claim 9, wherein the positions of edges of the remaining edge reflection type surface acoustic wave devices are shifted from positions of the reference edges of the reference edge reflection type surface acoustic wave devices by about  $\lambda/8$  or less, where the  $\lambda$  is a wavelength of a shear horizontal type surface wave to be excited in the remaining edge reflection type surface acoustic wave device.

11. A method for producing an edge reflection type surface acoustic wave device according to claim 9, wherein the positions of edges of the remaining edge reflection type surface acoustic wave devices are shifted from positions of the reference edges of the reference edge reflection type surface acoustic wave devices by about  $\lambda/16$  or less, where the  $\lambda$  is wavelength of a shear horizontal type surface wave to be excited in the remaining edge reflection type surface acoustic wave device.

12. A method for producing an edge reflection type surface acoustic wave device according to claim 9, wherein the edge reflection type surface acoustic wave device comprises a single electrode type interdigital transducer.

13. A method for producing an edge reflection type surface acoustic wave device according to claim 12, wherein the positions of the edges which define the predetermined distance are located at approximate centers of electrodes.

14. A method for producing an edge reflection type surface acoustic wave device according to claim 9, wherein the edge reflection type surface acoustic wave device comprises a double electrode type interdigital transducer.

15. A method for producing an edge reflection type surface acoustic wave device according to claim 14, wherein each of the positions of the edges which define the predetermined distance is located at an approximate center of a pair of electrode fingers constituting a double electrode.